Environmental Operations, Inc.
CLEARING THE WAY

June 20, 2014

Mr. Bruce Morrison
Project Manager
U.S. Environmental Protection Agency, Region 7
11201 Renner Boulevard
Lenexa, KS 66219

RE: EPA & MDNR Comments on the April 4, 2014 Baseline Groundwater Monitoring Semi-Annual Report for the Solutia – John F. Queeny Site, St. Louis, Missouri
EPA ID No. MOD 004 954 111

Dear Mr. Morrison:

Environmental Operations, Inc. (EOI), on behalf of SWH Investments, is responding to the U.S. Environmental Protection Agency Region 7 (EPA) and the Missouri Department of Natural Resources (MDNR) comment letter dated May 15, 2014 and received May 23, 2014 for the referenced subject.

We have included the text of the individual comments verbatim in italics, followed by the response.

1. *The report does not represent a baseline of contaminant concentrations in groundwater at the site and should be re-titled "Annual Groundwater Monitoring Report".*

   EOI concurs. Future reports will drop "Baseline" from the title.

2. *The report discusses conceptual site model, but does not explain how the site groundwater monitoring system fits the conceptual site model. The report should discuss if the monitoring system is a good fit for the site. The purpose of conducting the groundwater monitoring should be made clear in each annual groundwater monitoring report. Assessing whether the monitoring system fits this model can provide support in demonstrating that the full extent of contaminant transport has been documented. When data contradicts these conclusions, then the report should be focused on providing a rationale for the unexpected results and/or recommending additional monitoring wells so that extent can be fully documented.*

   The monitoring network was established based on the existing conceptual site model. The network therefore was a good fit. Data to-date have not indicated a compelling justification to change the well network, which includes wells in different stratigraphic units with source and downgradient monitoring points. EOI will augment future discussions in reports to address this comment.

3. *The report states that non-aqueous phase liquid measurements were obtained. However, there is no further discussion. The report should include a table indicating NAPL thickness or a statement that NAPL was not observed during the reporting period.*

   EOI gauges the wells using an interface probe capable of detecting NAPL. When encountered, it has been noted on the field sampling forms. Typically, if NAPL is found, it has been petroleum; i.e. LNAPL, and the wells have been either MW-28A and MW-24A. EOI will add that information to a table in future reports.

4. *The report discusses previous hydraulic conductivity data conducted via slug testing and both horizontal and vertical flow directions. The report should also include calculated horizontal and vertical flow gradients, effective porosity and rate of contaminant migration and to optimize sampling frequency for assessing plume migration.*

   EOI did not contemplate repeating slug testing or other aquifer testing as work was not likely to impact or change aquifer characteristics. EOI can calculate and provide horizontal flow gradients, and where suitable wells exist, calculate vertical gradients for future reports. Porosity values are typically derived from the literature. We can incorporate this information in future recommendations and discussions for sampling frequency.

5. *The report does not include comparison of the total depth with the as-built well depth to determine the percent of wellbore siltation. Total well depths should be measured annually in all wells and should be compared to as-build (sic) well depth measurements. If more than 10 percent of the well screen is occluded then well maintenance should be conducted prior to the next scheduled sampling event. These activities should be documented in the annual report.*

   EOI will plan to gauge both depth to water and total well depth during the July 2014 event. Documentation will be included in subsequent reporting, and maintenance will be performed if needed.

6. *Significantly elevated levels of toluene, benzene, chlorobenzene, trichlkoroethene, tetrachloroethene, and/or daughter products remain in groundwater at one or more of the source areas. Although there has been significant reduction of one or more of these compounds in some of the source area monitoring wells, additional groundwater monitoring events are necessary in order to assess, the potential rebound of groundwater contaminant concentrations as a result of contaminant desorption from subsurface soil. To that end, all of the source area groundwater monitoring wells at Area FF, APA, and FBCSA should be sampled and analyzed for VOCs and alachlor during the upcoming July, 2014 sampling events. The evaluation of the results from this sampling event should be included and evaluated in the draft Interim Measures Completion Report. In addition, the IMCR should include multiple cross sections of each source area that depicts the vertical and horizontal extent of contaminant plumes in relation to the stratigraphy, monitoring well locations, and the monitoring well screened interval. Isopleth maps of contamination in the groundwater horizons should also be developed. This information*

is needed to better understand the dimensions of contaminant plumes and refine the conceptual site model. Knowing the dimensions of the contaminant plumes will be necessary for evaluating corrective action alternatives in the Focused Corrective Measures Study.

EOI concurs that additional groundwater monitoring events are appropriate. Some wells are identified as "source" wells, yet may be on the upgradient side of the source area, and data had suggested less sampling frequency was appropriate. We suggest that prior to our July 2014 sampling, we agree which source area wells that might not have been sampled be designated as ones additionally sampled. We will incorporate the suggestions on cross sections and isopleths maps to provide visual representations of the contaminant plumes in preparing the IMCR.

7. *The third paragraph of the conclusions and recommendations section indicates that a Technical Impracticability Report will be prepared, since the goal of 75% reduction of contaminants in groundwater was not achieved; and that Monitored Natural Attenuation would be initiated following the July, 2014 groundwater monitoring event. The selection of a TI final remedy for groundwater at the site is presumptive and premature. Paragraph 41 of the Administrative Order (Docket No. RCRA-0702009-0015) states that "The results achieved by Respondent's performance of Interim Measures can be considered and incorporated in the Respondent's study of alternatives and recommendations for the final remedy in a Corrective Measures Study." Paragraph 41 goes on to provide additional direction on the preparation of the CMS, as does the Statement of Work attached to the Order. While TI determinations have been made at some sites where there are dense non-aqueous phase liquids in bedrock, the relatively shallow contamination in the fill and silty clay zone does not pose hydrogeologic or contaminant-related factors that would inhibit significant remediation using established remediation technologies.*

   Comment acknowledged.

If there are questions or concerns, please contact me by phone at (314) 241-0900, or via email at larryr@environmentalops.com.

Respectfully submitted,
ENVIRONMENTAL OPERATIONS, INC.

Lawrence C. Rosen

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